CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2019
DateRun:	12/22/2019
Experimenters:	Othon Pagounes, Tuan Le
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Steel, Vinyl Composite Tiles
PartType:	Coupon
Contaminants:	Dirt, Food
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric, Visual
Purpose:	To evaluate the effectiveness of Shark Ninja formulations in the removal of soils on various surfaces.
Experimental Procedure:	Six pre-weighed coupons, three of each substrate per cleaner, were soiled with half a gram of DCC-17 soil (33% lard; 33% shortening; 33% vegetable oil and 1% carbon black powder) distributed onto each coupon using a swab. Dirty weights were recorded after the coupons had dried for 24 hours at room temperature (68° F). Three coupons of the same substrate were aligned into a Single Line Washing Unit (SLW) with Wypall X60 attached to the cleaning sled. The Wypall X60 reinforced wipe along with the coupons were all sprayed three times with the cleaner and then allowed to soak for 30 seconds. Afterwards the SLW was activated, and the coupons were cleaned for 20 cycles. Cleaned coupons dried overnight at room temperature before the final weights were recorded.

Results:

Cleaner	Substrate	Initial wt. of cont. (g)	Final wt. of cont. (g)	% Cont. Removed	Average % Removed	Overall Average % Removed
B Formulation	Painted Steel	0.5224	0.0414	92.08	92.59	87.59
		0.5048	0.0194	96.16		
		0.5147	0.0539	89.53		
	Vinyl Composite Tile	0.5243	0.0856	83.67	82.59	
		0.5433	0.1049	80.69		
		0.4953	0.0822	83.40		
U Formulation	Painted Steel	0.4705	0.0057	98.79	96.33	89.89
		0.4668	0.0361	92.27		
		0.5072	0.0105	97.93		
	Vinyl Composite Tile	0.544	0.0553	89.83	83.44	
		0.5093	0.1052	79.34		
		0.3795	0.0716	81.13		
R Formulation	Painted Steel	0.5032	0.0013	99.74	97.98	89.87
		0.4025	0.0089	97.79		
		0.513	0.0184	96.41		
	Vinyl Composite Tile	0.4385	0.0762	82.62	81.76	
		0.5233	0.0896	82.88		
		0.4392	0.0888	79.78		
RU Formulation	Painted Steel	0.515	0.0267	94.82	92.72	90.77
		0.4864	0.0185	96.20		
		0.472	0.0607	87.14		
	Vinyl Composite Tile	0.4604	0.0611	86.73	83.81	
		0.5096	0.1025	79.89		
		0.518	0.0786	84.83		
OO Formulation	Painted Steel	0.4828	0.0344	92.87	92.52	87.16
		0.4508	0.0286	93.66		
		0.4327	0.0388	91.03		
	Vinyl Composite Tile	0.5138	0.0849	83.48	81.80	
		0.4682	0.114	75.65		
		0.5271	0.0724	86.26		
MM Formulation	Painted Steel	0.3902	0.039	90.01	91.77	86.81

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		0.5074	0.0503	90.09		
		0.434	0.0208	95.21		
	Vinyl Composite Tile	0.4198	0.0887	78.87	81.84	
		0.5282	0.0906	82.85		
		0.4676	0.0758	83.79		
S Formulation	Painted Steel	0.3733	0.0126	96.62	94.41	90.77
		0.4389	0.0281	93.60		
		0.3457	0.0242	93.00		
	Vinyl Composite Tile	0.4691	0.0665	85.82	87.13	
		0.4682	0.0541	88.45		
		0.4957	0.0639	87.11		
BBB Formulation	Painted Steel	0.8343	0.0731	91.24	93.99	82.65
		0.9163	0.0579	93.68		
		0.8908	0.0262	97.06		
	Vinyl Composite Tile	0.4566	0.1624	64.43	71.32	
		0.4403	0.1328	69.84		
		0.4057	0.0824	79.69		
CCC Formulation	Painted Steel	1.0555	0.0448	95.76	95.53	86.17
		0.9703	0.0421	95.66		
		0.997	0.0481	95.18		
	Vinyl Composite Tile	0.3724	0.0647	82.63	76.81	
		0.4893	0.1246	74.54		
		0.4519	0.1208	73.27		

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Cleaner Formulation	Overall Avg. Cont. Removed %	Effective
B Formulation	87.99	Yes
U Formulation	89.89	Yes
R Formulation	89.87	Yes
RU Formulation	90.77	Yes
OO Formulation	87.16	Yes
MM Formulation	86.81	Yes
S Formulation	90.77	Yes
BBB Formulation	82.65	Yes
CCC Formulation	86.17	Yes

Summary:

Substrates:	Steel, Vinyl Composite Tiles				
Contaminants:	Dirt, Food				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Shark Ninja	Shark Ninja B	100	88.00	☑	

Conclusion: All Shark Ninja formulations were effective in the removal DCC-17 from painted steel and vinyl composite tile.